

South Dakota State University

## Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

---

SDSU Extension Fact Sheets

SDSU Extension

---

1970

### Photosensitization in Animals

Cooperative Extension South Dakota State University

Follow this and additional works at: [https://openprairie.sdstate.edu/extension\\_fact](https://openprairie.sdstate.edu/extension_fact)

---

#### Recommended Citation

South Dakota State University, Cooperative Extension, "Photosensitization in Animals" (1970). *SDSU Extension Fact Sheets*. 1206.

[https://openprairie.sdstate.edu/extension\\_fact/1206](https://openprairie.sdstate.edu/extension_fact/1206)

This Fact Sheet is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in SDSU Extension Fact Sheets by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact [michael.biondo@sdstate.edu](mailto:michael.biondo@sdstate.edu).

# Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



For current policies and practices, contact SDSU Extension

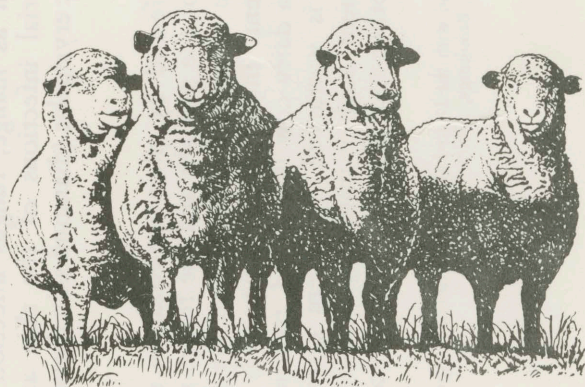
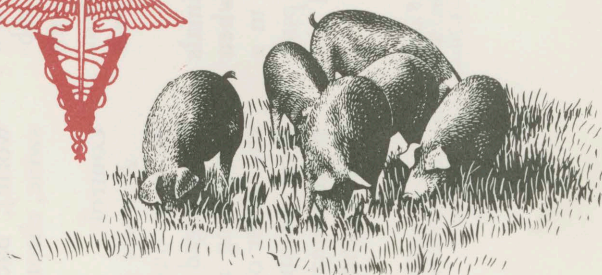
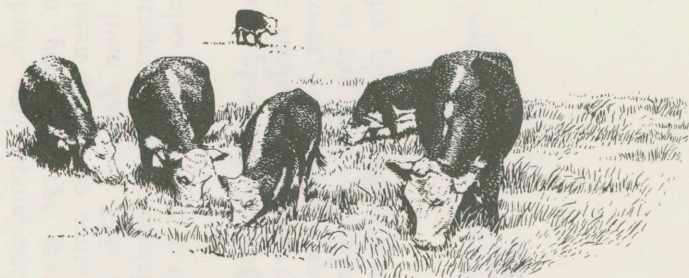
Website: [extension.sdstate.edu](http://extension.sdstate.edu)

Phone: 605-688-4792

Email: [sdsu.extension@sdstate.edu](mailto:sdsu.extension@sdstate.edu)

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

# ***Photosensitization in Animals***



Cooperative Extension Service: South Dakota  
State University and U. S. Department of  
Agriculture



## Photosensitization in Animals

By  
Clyde Kirkbride, D.V.M., instructor in Veterinary Science  
and  
James H. Bailey, D.V.M. extension veterinarian

### Cause and Occurrence

Photosensitization is a disease caused by the sensitization of the skin to sunlight. It may occur in any species of animal and is common in cattle, sheep and swine. Some feeds, forage, and certain medicines contain substances which may sensitize the skin (*primary photosensitization*). In other cases, products of metabolism, which normally would be removed from the body, accumulate because of faulty liver function (*hepatogenous photosensitization*). The problem also occurs in cattle and swine with congenital porphyria. This is a rare hereditary disease which results in the excess production of porphyrins photosensitizing pigments.

Primary photosensitization usually occurs in the spring when plants are lush, green, and growing rapidly. Ordinarily, large quantities of the photosensitizing plant must be eaten in order to cause the disease, and the effects are usually visible four to five days after the animals have been turned onto pasture. St. John's Wort (Klamath weed) and buckwheat are two of the most common sources of photosensitizing substances. The dried form as well as the blossoming stage of buckwheat may be troublesome.

Rape, kale, trefoil, alfalfa, Alsike clover, Swedish clover, lamb's tongue, and plantain have all been associated with photosensitization at one time or another. Several plants, such as panic grass, millet grass, coal oil bush, and lupine, and many fungi that grow on perennial rye grass and Bermuda grass have been shown to contain substances which cause liver damage. This in turn often results in hepatogenous photosensitization. Some medicines may also cause damage to the liver with the same results.

The administration of phenothiazine to animals with access to bright sunlight, particularly when reflected off snow cover, frequently results in a severe inflammation of the eyes resembling pink eye. This is caused by photosensitization of the eyes.

### Symptoms

The signs of the disease are essentially those of severe sunburn. Animals with light haircoat and little pigment in the skin are most frequently affected. The muzzle, eyes, face and light areas over the back are usually affected first. Areas of the belly and udder, which are exposed to the sun when the animal lies down, may also be affected.

The earliest signs are redness and swelling of the skin. Later, tissue fluids ooze from the affected areas and crusting of the skin occurs, with resultant matting of the hair. In severe cases, the eyelids and nostrils may be swollen closed. In extreme cases, sloughing of the skin and gangrene result.

Where skin lesions are severe and extensive, shock may occur. The temperature is often elevated and the animal is weak. There may be difficult breathing and blindness. Excitement or depression and a wobbly gait often occur.

The swelling around the eyes, muzzle, face and ears due to photosensitization in open-faced sheep gives rise to the common name of "big head."

When the udder of a dairy cow is affected, severe mastitis may result from infection of the skin lesions being transmitted to the gland.

White skinned pigs are frequently affected by sunburn without the presence of photosensitizing substances. When photosensitization does occur in these pigs, the results usually are rather severe.

In diagnosis, photosensitization must be differentiated from other diseases which cause lesions of the skin, such as mange, fungus infection (ringworm), bacterial infections of the skin and, in swine, chronic erysipelas (diamond skin disease).

### Control

Animals affected by photosensitization should be kept out of the sunlight and the forage should be changed to eliminate the source of the photosensitizing agent. In some cases, especially when the udder of a dairy cow is involved, treatment of local lesions is warranted. In severe cases, supportive treatment, such as intravenous fluids, antibiotics, and other special medicines are necessary.



CONSULT YOUR VETERINARIAN—  
HE'S TRAINED TO HELP YOU PREVENT LOSSES FROM DISEASE

COOPERATIVE EXTENSION SERVICE  
U. S. Department of Agriculture  
South Dakota State University  
BROOKINGS, SOUTH DAKOTA 57006

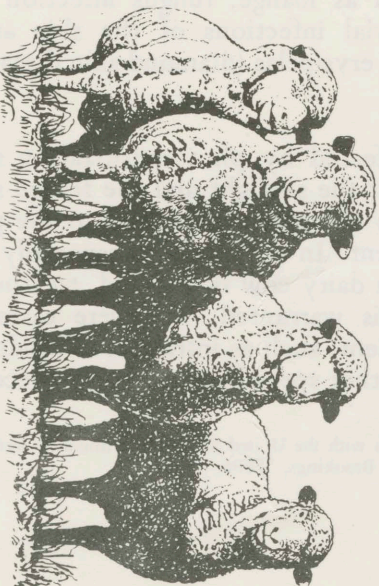
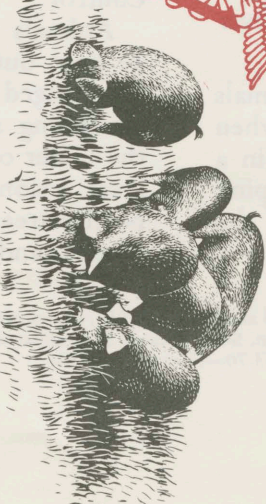
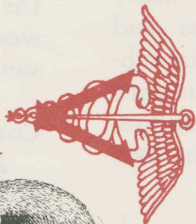
OFFICIAL BUSINESS  
5M—3-70—10831



POSTAGE AND FEES PAID  
U. S. DEPARTMENT OF AGRICULTURE

# Photosensitization in Animals

FS 499



Cooperative Extension Service: South Dakota  
State University and U. S. Department of  
Agriculture